and the Sun, the available observations not admitting of any reliable conclusions being deduced from them. As this latter proved to have been the case, the fact of a comet's invisibility on the Sun's face, to ordinary instrumental means at least, lends an additional interest to the observation. I hope, however, in America, with a higher Sun, the rare occasion will not have been lost.

The post-perihelion development of the comet has been replete with interest, and of great grandeur, and has been followed with as much assiduity as the exceptionally unfavourable weather would permit.

Elements of the Great Comet (b) 1882. By W. H. Finlay, B.A., and W. L. Elkin, Ph.D.

$$T \quad \ldots \quad \ldots \quad \text{Sept. } 17\cdot2242, \text{ G.M.T.}$$

$$\omega \quad \ldots \quad \ldots \quad 69^\circ \; 32' \; 8''$$
$$\mathfrak{S} \quad \ldots \quad \ldots \quad 345 \; 59 \; 35 \quad \left.\right\} \begin{array}{c} \text{Mean Equinox} \\ 1882\cdot0. \end{array}$$
$$\iota \quad \ldots \quad \ldots \quad 141 \; 58 \; 59$$

$$\log q \quad \ldots \quad \ldots \quad 7\cdot888881$$

These elements are founded on two meridian observations on Sept. 17, 22, and extra-meridian ones on Sept. 28, aberration and parallax being taken into account. They represent the middle place and two other observations as follows :—

	Comp. — Obs.	
	$d\lambda$	$d\beta$
Sept. 8	$-8''$	$-20''$
22	0	$+5$
Oct. 3	0	$+24$

They also give for the distance of the comet from the centre of the Sun at the moment when we saw it disappear at the limb on the afternoon of Sept. 17 :—

$$963''\cdot2,$$

which is only $5''\cdot5$ in excess of the tabular value of the Sun's semi-diameter.

The outstanding errors in the extreme latitudes are certainly greater than the uncertainties in the star places or in the observations will account for, and seem to point to a slight insufficiency of the parabolic hypothesis.

It will be seen at once that the elements bear a strong resemblance to those of the great comets of 1843 and 1880. In physical appearance, however, this comet differs totally from that of

1880, and (as far as can be gathered from the accounts) only resembles the one of 1843 in the point of extreme brilliancy at perihelion.

Royal Observatory,
   Cape of Good Hope :
      1882, Oct. 9.

The Great Comet (b) 1882.   By F. C. Penrose.

I have attempted to work out the orbit of the comet graphically; and although I know I have not succeeded fully, yet I have arrived at results which, I trust, may be thought respectable. They are, at any rate, entirely independent of any published elements.

$$T \quad \dots \quad \dots \quad \dots \quad \dots \quad \text{Sept. } 17 \cdot 23,$$

Longitude of ascending node $348°\ 20',$

Inclination $\dots \quad \dots \quad \dots \quad 37°\ 15',$

the orbit being an ellipse with a period of about 480 days. The above elements were got from observations subsequent to perihelion, and up to Oct. 11. When I try to connect them with later observations, I see reason to come nearer to Mr. Hind's elements, which give for the node and the inclination respectively

$$346°\ 6'\ 58''$$

and

$$37°\ 58'\ 59.$$

I have not yet made any determination of the orbit before perihelion, but from such observations as have come to hand, and others taken very shortly after perihelion, I think I may venture to add that the graphical work suggests the probability of the node having been swept several degrees backwards in longitude between the contact with the Sun's limb recorded by Mr. Gill on the 17th, and the subsequent observations, say up to Sept. 23.

Observations of Comets a, b, c, 1882, *made at the Royal Observatory, Greenwich.*

(*Communicated by the Astronomer Royal.*)

The observations of Comet *a* with the Naylor equatorial, of Comet *b* with the East equatorial, and of Comet *c* with the Southeast equatorial, were all made by taking transits over two cross wires at right angles to each other, and each inclined 45° to the parallel of declination.